

PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference SEC01 101 BA/RJ	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/AU2004/000012	International filing date (<i>day/month/year</i>) 7 January 2004	Priority date (<i>day/month/year</i>) 7 January 2003
International Patent Classification (IPC) or national classification and IPC Int. Cl. ⁷ G06F 1/00		
Applicant SECUREWRAP PTY LTD et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of **7** sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☒ (*sent to the applicant and to the International Bureau*) a total of **4** sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (*sent to the International Bureau only*) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input checked="" type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input checked="" type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand 6 August 2004	Date of completion of the report 1 April 2005
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer MATTHEW HOLLINGWORTH Telephone No. (02) 6283 2024

Box No. I **Basis of the report**

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1 (b))
- ☐ publication of the international application (under Rule 12.4)
- ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-16 as originally filed/furnished
- pages* received by this Authority on with the letter of
- pages* received by this Authority on with the letter of
- ☒ the claims:
- pages as originally filed/furnished
- pages* as amended (together with any statement) under Article 19
- pages* 17-20 received by this Authority on 17 November 2004 with the letter of the same date
- pages* received by this Authority on with the letter of
- ☒ the drawings:
- pages 1-2 as originally filed/furnished
- pages* received by this Authority on with the letter of
- pages* received by this Authority on with the letter of
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to the sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to the sequence listing (*specify*):

* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application

☒ claims Nos: 4-5, 7-8

because:

☐ the said international application, or the said claims Nos.
relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos.
are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos.
are so inadequately supported by the description that no meaningful opinion could be formed.

☒ no international search report has been established for said claim Nos. 4-5, 7-8

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form ☐ has not been furnished

☐ does not comply with the standard

the computer readable form ☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See Supplemental Box for further details.

Box No. IV Lack of unity of invention

1. ☐ In response to the invitation to restrict or pay additional fees the applicant has:
- ☐ restricted the claims.
 - ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is:

☐ complied with.

☒ not complied with for the following reasons:

The international application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single general inventive concept. In coming to this conclusion the International Searching Authority has found that there are four inventions:

- Claims 1-3 and 6, directed to methods of monitoring or protecting digital information such as installed software. The use of a secure wrapper which includes a hardware environment (or profile) check is considered to be a first "special technical feature."
- Claims 4-5, directed to a system architecture for providing monitoring of digital information. The provision of registration support means, allowing registration by alternative means of communication, is a third "special technical feature."
- Claim 7, directed to a method of monitoring digital information. The modification of protection software to mask its identifying characteristics and behaviours is considered to be a fourth "special technical feature."
- Claim 8, directed to a method of monitoring digital information. The checking by the protection software for the presence of code-breaking methods is considered to constitute a fifth "special technical feature."

Since these groups of claims do not share any of the technical features identified, a 'technical relationship' between the inventions, as defined in PCT rule 13.2 does not exist. Accordingly the international application does not relate to one invention or to a single inventive concept.

This authority did not invite the applicant to restrict or pay additional fees as there was no search report for the invention of the second, third and fourth groups of claims, and no meaningful opinion could be expressed on this groups.

4. Consequently, this report has been established in respect of the following parts of the international application:

☐ all parts.

☒ the parts relating to claims Nos. 1-3, 6

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 2-3, 6	YES
	Claims 1	NO
Inventive step (IS)	Claims	YES
	Claims 1-3, 6	NO
Industrial applicability (IA)	Claims 1-3, 6	YES
	Claims	NO

2. Citations and explanations (Rule 70.7)

- D1: US 6,041,411 A (WYATT), 21 March 2000
- D2: US 6,243,468 B1 (PEARCE et al), 5 June 2001
- D3: US 6,134,659 A (SPRONG et al), 17 October 2000
- D4: US 2002/0174356 A1 (PADOLE et al), 21 November 2002
- D5: US 4,796,220 A (WOLFE), 3 January 1989
- D6: WO 00/67095 A1 (TRYMEDIA SYSTEMS), 9 November 2000
- D7: *InterLok for Windows User Guide* (PACE Anti-Piracy, Inc.), February 2001
http://www.paceap.com/docs/InterLok_for_Windows.pdf
- D8: *www.softwrap.com* website, FAQs and selected press releases (as archived August-December 2002)
<http://web.archive.org/web/20021117075357/www.softwrap.com/faq1.asp>
<http://web.archive.org/web/20021203093103/www.softwrap.com/faq2.asp>
<http://web.archive.org/web/20021117075616/www.softwrap.com/faq3.asp>
<http://web.archive.org/web/20021117075708/www.softwrap.com/faq4.asp>
<http://web.archive.org/web/20020815000311/www.softwrap.com/news2.asp?id=28>
<http://web.archive.org/web/20020815014806/www.softwrap.com/news2.asp?id=17>
<http://web.archive.org/web/20020807224010/www.softwrap.com/news2.asp?id=47>
- D9: *www.macrovision.com* website, SafeCast product description (as archived August 2002)
<http://web.archive.org/web/20020802203458/www.macrovision.com/solutions/software/drm/>
- D10: *www.protexis.com* website, nTitles overview and FAQ? (as archived June-August 2002)
<http://web.archive.org/web/20020607154915/www.protexis.com/faq.html>
<http://web.archive.org/web/20020804035604/protexis.com/securingsoftgoods.html>
- D11: *www.c-dilla.com* website, CD-Secure product description (as archived March 2001)
<http://web.archive.org/web/20010301081829/www.c-dilla.com/products/cdsecure/CDsecure.htm>

(Continued in supplemental box.)

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 3 is unclear. It includes the step of "embedding protection software according to the method of Claim 1," yet claim 1 does not define "protection software," nor does it define a method of "embedding protection software."

(Claim 7 is unclear. It is unclear how the part of the claim beginning with "for example" should be taken to characterise the claimed invention.)

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V, item 2

NOVELTY (N) claim 1

Claim 1: This claim lack novelty when compared to D7. Particular features of claim 1 are identified in D7 as follows:

- page 67 shows an “automatic integration” option, corresponding to the “first wrapper method” of the claim;
- pages 119-120 describe the “InterLok API” which allows the user to wrap software by way of an API, corresponding to the “second wrapper method” of the claim;
- page 69 shows a “programmed integration” option (to be used for protecting non-executable software – see page 13, first paragraph), in which , corresponding to the “third wrapper method” of the claim; and
- page 27 describes a “challenge/response” authorization method, including a “hardware environment check” as claimed;

INVENTIVE STEP (IS) claims 1-3, 6

Claims 1: As above.

Claims 2-3: These claims lack inventive step in light of D7, as they add only features of common general knowledge.

Claims 1-3: These claims lack inventive step in light of each of D8-D11. Each of these web pages describes a different copy protection scheme – *SoftWrap*, Macrovision *SafeCast*, Protexis *nTitles*, and Ç-Dilla *CD-Secure*, respectively (*CD-Secure* appears to be an earlier version of *SafeCast*). (D7 is a user manual for a similar product, PACE Anti-Piracy *Interlok for Windows*.) It is not clear whether any of the cited systems allow the software developer to choose between three wrapping methods as claimed (although each uses at least one of them). However, each of the claimed wrapping methods is individually well-known. To provide all three methods in one package, allowing a software developer to choose between according to requirements, is seen to be at best a workshop improvement on the cited art, and the arrangement does not confer inventive step to the claimed invention.

Claim 6: This claim lacks inventive step in light of any of D1-D11. In some fashion, each of these documents generates an installation code from a hardware profile of the computer on which software is to be installed. The particular claimed arrangement, in which an authorisation source and registration authority are used to authorise and register the installation using the hardware fingerprint, is not seen to inventively differ from any of the cited arrangements, and is an obvious variations on a well-traversed theme.

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CLAIMS

1. A method of monitoring digital information including:

creating a secure wrapper around the digital information using a method selected from:

a first wrapper method including directly embedding a first executable protection software
5 portion in the digital information; or

a second wrapper method including linking a second executable protection software
portion to the digital information by way of an application program interface (API); or

a third wrapper method including modifying the digital information and embedding a third
executable protection software portion in the modified digital information;

10 each of the first, second and third executable protection software portion including a
specific performance portion operable by a user to perform one or more specific performance
tasks, the or at least one of the specific performance tasks including a hardware environment
check;

selecting one of the first second or third wrapper methods according to the software and
15 development platform of the digital information, the accessibility of the source code of the digital
information, and/or the level of monitoring required;

executing selected wrapper method by way of the first, second or third executable
protection software portions including the steps of:

intercepting access to the digital information;

20 checking that at least one of the specific performance tasks has been performed,
including the hardware environment check has been performed; and

validating whether or not the hardware environment corresponds to the hardware
environment which has been previously checked.

25 2. A method according to Claim 1 wherein one of the specific performance
tasks includes checking whether an operating system is operating having multiple virtual storage
and a system user account check is performed, whereupon the remainder of the method uses the
user account information instead of or in addition to the hardware environment check.

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3. A method of monitoring digital information in the form of a non-executable, browser-readable code and/or content including:

creating a mapping table capable of translating and preserving text, all object paths, extensions and such like within a single container or file structure to form a mapped file;

converting the mapped file into an executable file structure to form a conversion file;

5 encrypting the conversion file to form an encrypted file and

embedding protection software according to the method of Claim 1 or Claim 2 to enable dynamic decryption of selected content of the encrypted file when correctly registered.

4. A system architecture for providing monitoring of digital information, including:

10 primary web server means for serving a computer network;

a plurality of client computers operatively connected to the primary web server means by way of the network;

one or more registration server means operatively connected to the primary web server and operatively connectible to the client computers by way of the network;

15 registration support means operatively associated with the primary web and registration server means for supporting the functionality of the primary web and registration server means;

wherein the primary web server means is operable to provide validation of a call from any client computer, tracking the client computer and if required redirecting the call;

20 and wherein the registration server means is operable to provide registration of each client computer when operatively connected thereto by way of the network;

the operative association of the registration support means including alternative means of communicating information between the client computers and the registration server means for client computers which are not connected thereto and the registration support means being operable to provide or functional in providing for registration of any client computer by way of
25 the alternative means of communicating.

5. A system architecture according to Claim 4, further including data analysis means operatively connected to the registration server means for analysing the registration, usage or other billing, behavioural, demographic and/or market analysis of information received from the
30 client computers in the registration and usage of digital information.

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6. A method of protecting software, the method insofar as the installation and registration of the software including the steps of:

installing the software on a computer;

after installing the software, running the software for a first time;

upon the running of the software on the computer, generating an installation code from

5 the hardware profile of the computer;

after generating the installation code, requesting a unique serial number from an authorisation source, the request including providing the hardware profile of the computer;

after requesting the serial number, registering the software with a registration authority using the serial number and installation code;

10 receiving a positive or negative reply from the registration authority;

upon the receipt of a negative reply from the registration authority, returning to the step of requesting a serial number and following the steps thereafter;

upon the receipt of a positive reply from the registration authority, receiving a registration key from the registration authority and saving the registration key on the computer, whereupon

15 the software may be executed insofar as its functional performance is concerned;

the method insofar as the post-registration running of the software including the further steps of:

running the software on the computer;

upon the running of the software on the computer, generating an installation code from

20 the hardware profile of the computer;

after the hardware profile has been generated, comparing the registration key with the hardware profile;

upon the matching of the hardware profile with the registration key, permitting the software to executed insofar as its functional performance is concerned;

25 upon the failure of the hardware profile to match the registration key, denying permission for the software to executed insofar as its functional performance is concerned.

7. A method of monitoring digital information including:

adding a protection software portion;

- 20 -

modifying the protection software portion so as to mask its identifying characteristics and behaviour. For example, operative portions of program code may be embedded into other code which is, apparently, functional, but never called by the actual program in its operation.

8. A method of monitoring digital information having a protection software portion,
5 including;
adding a specific performance portion for checking for the presence of code-breaking methods;
checking for the presence of code-breaking methods to provide a check result; and
modifying the behaviour of the protection software portion in accordance with the check
10 result.